

DELUXE

Paint

The Manual

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DeluxePaint—The Manual

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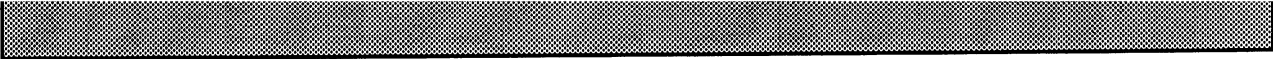
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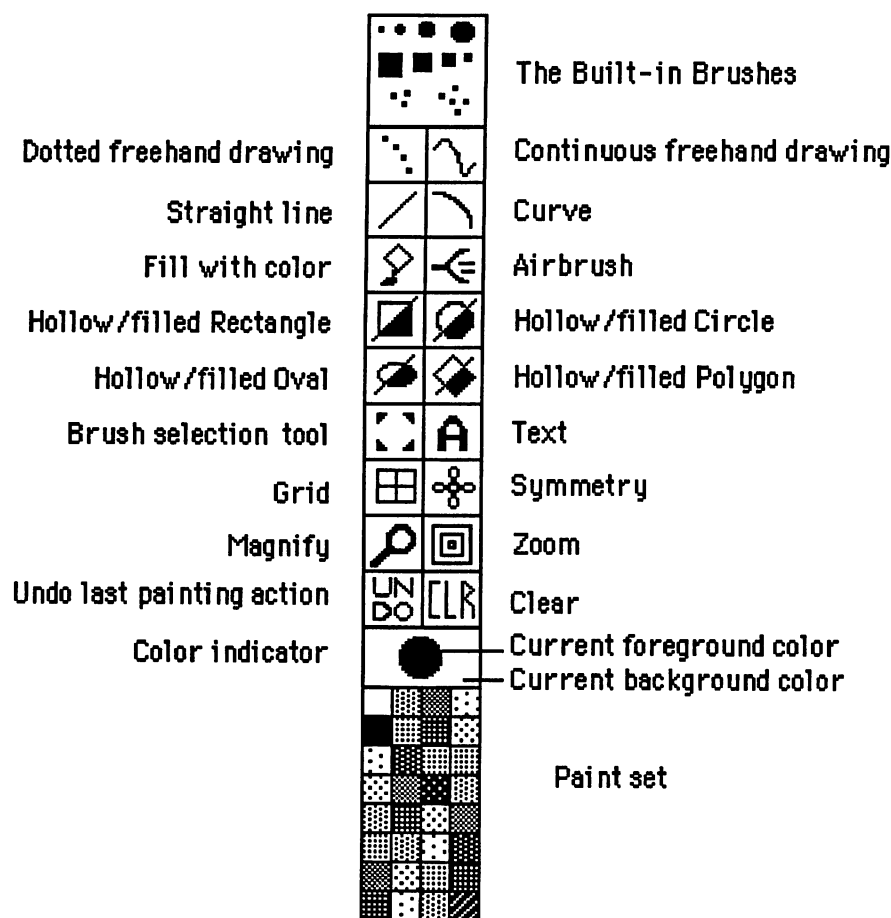
1. Getting Started

The essence of DeluxePaint is experimentation. Drag across the screen (that is, move the mouse while holding down a button), and something happens. Don't like what you did? Click **Undo** in the **Control Panel** to get rid of it. And pulling down a menu to choose **Load** always gets you back to the last version you saved.

So look any drawing or painting inhibitions you may have squarely in the eye and get rid of them. The fastest route to DeluxePaint mastery is fearless playfulness while you work.

The 5 basic "principles" described on the next page offer a guide to a hands-on exploration of the program's powers.

These principles aren't meant to be read and memorized, as if for a test. For best results, read and explore each of them before going to the next. And if your exploration makes you curious, by all means use the table of contents and index to track down more information elsewhere in this manual. You can always come back to dive into the next principle later on.



Learning DeluxePaint: A Quick-Start Guide

1. In the paint set and the drawing area, left button means foreground color, right button means background color. In the Control Panel, left button selects tools.

The color indicators at the top of the paint set show the currently selected foreground and background colors. Point at a color in the paint set and click with the left button to select a new foreground color and with the right button to select a new background color.

In the drawing area, drag with the left button (that is, hold down the left button while moving the mouse) to draw with the current foreground color, and drag with the right button to draw with the current background color.

To change brushes, point at the one you want (in the set of possibilities at the top of the Control Panel) and click with the left button. Try out different brushes and colors. Notice the convenience of erasing with the right button whenever the background color on the screen matches the one currently selected in the paint set. And remember, you can always erase your last completed drawing action by clicking Undo.

Experiment with the different tools. Notice that the foreground/background color rule applies no matter which drawing tool you're using, so erasing large areas is as easy as drawing with one of the filled shape tools with the right button.

Notice also that there are actually 8 shape tools: clicking the upper left part of a shape icon selects the hollow tool for that shape; clicking the lower right selects the filled one.

When you want to clear the screen completely, painting it with the current background color, click the **CLR** icon. When you just want to undo your last drawing action, click **Undo**. When you want to stop in the middle of an action, press the **Space bar**. And if you ever feel completely lost, press **Help** to return the controls in the Control Panel to the settings they had when you started the program.

2. Any picture or part of a picture can itself be copied or picked up and used as a brush.

After some experimentation with the built-in brushes and tools, it's time to add this simple but extremely powerful concept to your DeluxePainting repertoire. If you click on the **Brush Selection** tool with the left button, then drag a selection box around a picture or part of a picture and release the button, you'll capture whatever you surrounded for use as a brush.

Drag and release with the left button to copy the selected paint, drag and release with the right one to pick up the paint, removing it from the picture. Paint which matches the current background color will be transparent in the brush. When you use the right button to cut paint from the picture, the rectangle left behind (the "hole" in the picture) will be filled with the current background color.

It would be hard to overstate the power and flexibility contained in this "make your own brush" notion. In addition to letting you paint with multicolored brushes, it also lets you pick up parts of a picture and move or copy them to other locations, even to other pictures.

The brushes you create can be flipped, stretched and rotated using the commands in the Brush menu (see the next "principle"). As a result, you can change the size, shape and orientation of objects even after you've drawn them.

There are both brushes and pictures stored on your program disk. See "Loading and Saving Pictures and Brushes" and "Building Pictures with Brush and Background Libraries" for more information.

3. Point at the Title Strip and press the right button to produce and use the menus. Click with the right button in the Control Panel to bring up the additional options available for some of the tools.

Pointing at the Title Strip and pressing the right button produces the menu bar. Sliding right and left while holding down the button causes menus to pop down from the headings in the bar. Sliding the highlight over a command and releasing the button selects the command.

Some menu items (Size, for instance, in the Brush menu) produce sub-menus when you highlight them. When that happens, slide the pointer over until it is in the sub-menu, then move up and down as you do in all other menus, releasing the button over a command to select it. To leave a menu or sub-menu without choosing a command, slide all the way out of the menu before releasing the button.

Use principle 2 to select a brush, then use this principle to experiment with the commands in the Brush and Mode menus. Brush menu commands affect the size, shape and orientation of the brush. Mode menu commands determine how the brush paints.

To see what the right button can do in the Control Panel, click with it on one of the built-in brushes, then move into the drawing area. The brush will appear with the word "size" attached to it. Drag with either button to grow and shrink the brush size, releasing the button at the size you want.

Right button on the airbrush lets you adjust the size of the airbrush nozzle, and on Grid and Symmetry it lets you adjust settings for those controls. On the Selection tool, it brings back the last brush you selected when you've used a built-in brush or a Brush command like Stretch in the meantime. And clicking with the right button on the foreground color indicator at the top of the paint set brings up the Palette described in the next "principle."

(By the way, if you're ever unsure whether an item in the Control Panel has right-button options, just try it. If nothing extra is available, clicking with the right button has the same effect as the left one.)

4. To create new colors for the paint set and explore other color controls, click with the right button on the foreground color indicator (or choose Color Control and then Palette in the Picture menu) to bring up the Palette.

Make a quick picture on the right hand side of the screen, using a few paint blobs of different colors, then select the Palette. Now click on the colors in your picture with the left button and watch the Palette. Notice that the color you click is selected in the Palette's color set, and that the sliders move each time a new color is selected.

To change one of the colors, drag the sliders up and down, or click above and below them to move them a notch at a time. Notice the change in the color in your picture as well as in the paint set. The R, G and B sliders control the amount of red, green and blue in the selected color. The H, S and V sliders control hue (like the "tint" knob on a tv), saturation (the amount of white, like the "color" knob) and value (the amount of light, like the "contrast" knob).

To undo the work you've done since you last selected a color in the Palette, click the Palette's Undo command. To cancel all the work you've done since you got the Palette out, click Cancel. Click OK to say, "yes, that's what I want."

Think of the colors as numbered from 1 in the upper left-hand corner of the paint set to 32 (in low-res mode with 512K memory) in the lower right-hand corner. To change several colors at once, click on a color in the Palette, then click Spread and click on another color above or below the first one you selected. The program will automatically generate a smooth set of colors between the two.

You can grab the Palette and move it around by pointing at its top and holding down the left button while you move the mouse. After you've moved the Palette, it will return where you last left it the next time you get it out.

The Palette also contains the controls you need for color cycle animation effects and for setting the limits of the Shade and Blend brush modes. For a taste of what's possible with color cycling, follow the instructions in the next section ("Loading and Saving Pictures and Brushes") to load the Waterfall picture from your program disk, then press the Tab key. Press it again to stop the cycling. For more information about color cycling, see "Animating with Cycle" in the "Brushes" section.

5. As these rules become second nature, begin experimenting with the keystrokes shown in the menus and listed in Appendix A of the manual.

There are a number of special keyboard controls and shortcuts in DeluxePaint. The Tab key, for instance, turns color cycling on and off. Typing **b** brings up the selection tool wherever the cursor is pointing. And holding down the **Shift** key while stretching a brush (with the Stretch command in the Brush menu) constrains the action so that the brush height and width retain the same proportional relationship to each other.

All of the keystrokes which can be used as substitutes for the menu commands are listed down the right-hand side of the menus. There's a complete listing of all other keystroke commands in Appendix A at the back of this manual.

Don't let the number of keystroke possibilities intimidate you. If you're a mouse-plus-keyboard fan, you'll quickly learn the ones that matter most to you, and you need not worry about the rest.

Printing Pictures

This manual assumes you have followed the printer setup instructions that came with your computer and your printer. See the reference card that came with your disk for additional information.

To print a picture in the display, simply choose Print in the Picture menu. One caution: what you see on the screen is exactly what will print—which means that black background will print as black. If you're using a color printer and want to print a picture with a transparent background, fill the background with white before you print.

If you are using a black and white printer, you will probably want to use the gray scale setting for printing art. By all means though, experiment with the black and white mode. There may be times when you want the special effects you can achieve with it.

Loading and Saving Pictures and Brushes

There are several pictures and collections of brushes already on your program disk. Loading the pictures and playing with the tools in the Control Panel and the controls in the Palette is one good way to get a feeling for how the program works.

The pictures come stored in a drawer named lo-res (for "low resolution") The program disk also contains empty picture drawers named med-res and hi-res (for "medium resolution" and "high resolution"). When you start the program, the drawer corresponding to the resolution you choose will be opened when you choose Load... in the Picture menu. Its contents will be listed in the "Load Picture" window.

The brushes come stored in a drawer named Brush and within that in four "sub-drawers" (like file folders in the drawer of a filing cabinet) named Fantasy1 and 2, Xmas, and Special. When you choose Load... in the Brush menu for the first time in a session, The Brush Drawer will be open with its sub-drawers listed in the window.

To load a picture:

1. Choose **Load** in the **Picture** menu.
2. Point at a picture name and click with the left button to put its name in the File slot, then click **Load** to load it into memory. To scroll more picture names into view, click on the arrows on the right side of the window or drag the vertical bar between those arrows. (Use the left button.)

To load a brush:

1. Choose the **Load** command in the **Brush** menu instead of the one in the Picture menu.
2. Click on the Drawer name you want to open, and the list of brushes in that drawer will appear in the window. Click on a brush name and then on **Load** to load a brush.
3. To change Drawers, click the cursor into the slot containing the current Drawer name and erase the name; then type the name of the drawer you want and press Return. (Use the Backspace key to erase from right to left and the Del key to erase from left to right. Use the cursor keys to move the cursor without disturbing the text.)

If you can't remember the name of the drawer you want, erase the current drawer name and press Return. Then select the Brush drawer from the general disk directory which will appear.

To save a picture or brush with SaveAs...:

IMPORTANT. Please read and follow the reference card instructions for data disk preparation before using the steps below.

1. Make sure you have ejected the DeluxePaint disk and inserted a data disk in the drive. (External drive users, see the reference card for instructions.) Then choose Save As... from either the Picture or the Brush menu. (Using the DeluxePaint disk for storage is NOT recommended.)
2. Point at the file name slot and click with the left button; then type in the name you want for your picture. (Use the Backspace and Delete keys to erase what's there if necessary.)
3. Follow the same procedure to enter a drawer name if you want to use one. Then click Save.

If you enter the name of a drawer which does not exist on your data disk, the program will save the brush or picture at the top-most level of the drawers-within-drawers-within-drawers scheme. Erasing the current drawer name from the Save As... window and pressing return brings that top-most level's listing into the window.

For information about creating drawers on your data disks, see the reference card.

Using Save (Name) in the Picture menu:

This command saves the picture currently in memory using the same name you used the last time you saved it. It shows as much of that name as it can in the menu.

When you use this command, the program first renames the existing version as **backup.pic**, then it saves the version in memory, putting it in whatever drawer is open when you save. Think of this as a safety feature. If you should accidentally use Save to replace a version you really wanted, just load backup.pic and give it its old name back with Save As...

Building Pictures with Brush and Background Libraries

Load the picture named Xmas, then open the Xmas Brush drawer and load the brush named The Tree. Click it into the picture where you think the Christmas tree should go. Click Undo if it doesn't look as good there as you expected, and click it somewhere else. Now load an ornament and begin decorating your tree.

Continue loading brushes and adding them to your picture. And remember, you can use the commands in the Brush menu to change the size, shape and direction of all the brushes, so you can make the tree larger or smaller, etc. When you finish, turn on color cycling to watch the lights blink, the snow fall, and the fire roar.

The Fantasy set was designed to work with the Fantasy Scene in the same manner. The Special set contains brushes that are fun to draw with. (Try "gray ball" with the airbrush, for instance. Use a wide nozzle setting.)

Using a Scratchpad with 512K

If you have 512K of memory in your computer, you can use another full screen to store brushes, patterns and picture parts and to create new objects as you work. Choosing **Spare** and then **Swap** in the **Picture** menu (or pressing J—for "jump"—on the keyboard) takes you there. Choose Swap again (or press J again) to go back to your picture.

To see this feature in action, follow the steps below to put the face of Venus on the alien's view screen in the Starflight picture on your program disk.

1. Begin by loading Venus. Copy her face as a brush.
2. Load Starflight. Choose **Change Color** and then **Remap** in the **Brush** menu to match the Venus brush to the paint set Starflight was painted with.
3. Choose **Size** and then **Stretch** in the **Picture** menu and re-size Venus's face so it will fit on the view screen. Notice that it overlaps the left side of the alien's head, which is between you and the view screen.
4. Choose **Spare** and then **Swap** (or type J) to swap the spare screen into view. Click down a copy of the Venus face to one side.

5. Use Swap again and copy the alien's head where it overlaps the view screen. Swap back to the spare and put down a copy of the alien's head. Pick up a copy of the Venus face, then Swap back to the Starflight picture.
6. Click Venus onto the view screen, then use Swap again to get the alien's head and one last time to return to Starflight so you can click the head back in place, overlapping the picture of Venus now on the screen..

The other commands in the **Spare** menu work as follows: **Picture to Spare** copies the picture in the display to the other screen; the two **Merge** commands do just what they say.

To see them in action, load Starflight, swap it to the spare screen and load KingTut. Then choose **Merge in Front**. When you prefer the Palette you had to the one you just loaded, choose **Color Control** and then **Restore Palette** in the **Picture** menu.

The spare screen is especially handy for constructing the Xmas and Fantasy scenes discussed in the previous section. Just load each brush in a set in turn and stamp down a copy. Swap to the spare screen and load the scene. Then swap back and forth getting the objects as you need them. (You might want to save the screen containing the brush collection as a picture for future use.)

The spare screen is also handy for filling areas with patterns. Just paint the pattern onto the spare screen, then swap to the other screen to paint your picture. Use the background color to paint the area you want to fill with the pattern. Then choose **Merge in back**.

2. Brushes

The Built-in Brushes

Left button selects a brush from the Control Panel. **Right button** selects a brush ready for resizing. Drag that brush with either button to stretch and shrink it. Release to set the size.

In the Drawing Area, **Left button** uses the selected brush to draw with the current foreground color. **Right button** does the same with the background color. For help with precise positioning, choose **Coordinates** in the **Prefs menu** (described under "Using the Prefs Menu" in the Drawing/Painting Tools section)

All the line and hollow shape tools use the current brush. If that brush is large, you may find the display disconcertingly jumpy when using those tools.

Turning on **Fast Feedback** in the **Prefs menu** solves the difficulty by causing those tools to draw with the smallest available brush while you determine where you want the line or shape to be. The program then redraws the line or shape with the current brush when you release the button.

Advanced Keyboard Controls

All commands work whenever the pointer is in the drawing area, even if a mouse button is down.

=	makes the brush larger.
-	makes it smaller.
h	halves its size.
H	doubles its size.
.	selects the one-pixel (i.e., smallest) brush.
[and]	selects the next color up /down in the paint set.

Making Your Own Brush

Click the **Brush Selection** tool with the **left button** or press **b** on the keyboard. Drag a selection box around a picture or picture part and release the button. Use the **left button** to copy the selected paint and the **right button** to pick up the paint, removing it from the screen.

Any paint in the brush which matches the current background color will be transparent. (The current background color is shown in the color indicator at the top of the paint set. Click in the paint set with the right button to change it.) When you use the right button to cut paint from the picture, the rectangle left behind will be filled with the current background color.

Click on the brush selection tool with the **right button** (or type **B**) to retrieve the brush most recently selected with the Selection tool. This is useful if in the meantime you've used a pre-built brush or if you've transformed the brush you selected with the **Stretch**, **Rotate Any Angle** or **Shear** commands under Size and Rotate in the Brush menu.

In the drawing area, all the line and hollow shape tools use the current brush. If that brush is large, you may find the display disconcertingly jumpy when using those tools. Turning on **Fast Feedback** in the **Prefs** menu solves the difficulty by causing those tools to draw with the smallest available brush while you hold the button down. Releasing the button redraws the line or shape with the current brush .

Brushes can be selected from one picture and used in another (described in the next section). They also can be manipulated with the commands in the Brush menu (described in the section following that).

Copying from One Picture to Another

Copying from one picture to another is simple and straightforward: pick up the material as a brush; then load the picture you want to copy it into and paint it there.

If the paint set in the new picture differs from the one in the picture the brush came from, choose **Change Colors** and then **Remap** in the **Brush** menu. The computer will automatically find and use the closest match in the new set for each color in the old set. (For a nice illustration of the effectiveness of this feature, load the KingTut picture and pick it up as a brush; then load Venus and use the Remap command.)

If you want to use the paint set in effect when the brush was created, choose **Use Brush Palette** under **Color Control** in the **Picture** menu. To undo this action, choose **Restore Palette** in that same menu.

Flipping, Rotating, Stretching a Brush

Brushes created with the Brush Selection tool can be flipped, rotated and sized using commands in the Brush menu.

Choosing **Size** produces a sub-menu of **Stretch**, **Halve**, **Double**, **Double Horiz** (for double horizontally) and **Double Vert** (for double vertically). Choose **Stretch**; then drag with either button to grow or shrink the size of the brush.

Hold down the **Shift** key while stretching to preserve the brush's horizontal to vertical proportions. **Halve**, **Double**, **Double Horiz** and **Double Vert** do just what they say.

Choosing **Flip** produces a sub-menu of **Horiz** (for horizontal) and **Vert** (for vertical). Choosing either flips the brush in the named direction. (A horizontal flip turns a word backwards, a vertical flip turns it upside down.)

Choosing **Rotate** produces a sub-menu of **90 Degrees** (one quarter-turn clockwise), **Any Angle** (you drag with either button to rotate the anchored box which appears, releasing at the position you want) and **Shear** (the top is anchored, the bottom slides left and right). When you use the **Any Angle** command with a complicated brush, the operation can take several seconds to complete.

For quick manipulations from the keyboard, press **x** for Flip Horizontal, **y** for Flip Vertical and **z** for Rotate 90 Degrees.

Changing Brush Colors

If you're using a pre-built brush or if you're using the Color mode with a brush you created, you can change the brush color by clicking with the left (foreground) button in the paint set. The color of the brush is the color it will paint with when you use the left button in the drawing area.

You can also pick the brush color directly from the drawing area. First click with the **left button** on the foreground color in the **color indicator** at the top of the paint set; then point at a color in the drawing area and click just as you would if you were picking the colors from the paint set.

Picking colors directly from the drawing area is especially useful for touch-up work when closely related shades are involved. The keyboard equivalent for clicking with the left button on the color indicator is the comma (,). You will most likely find that keyboard command especially useful for touch up work when using the magnify tool.

If you're using a brush you created with the brush selection tool, use **Change Colors** in the **Brush menu** to bring up a sub-menu which offers two additional kinds of changes you can make in the color of the current brush.

Bg → Fg provides a way of changing one color in a multi-colored brush. Begin by clicking the color you want to change in the paint set with the right (background) button. Then click the color you want to change to with the left (foreground) button. Finally, choose **Bg → Fg**, and the color in the brush which matches the current background color will change to the current foreground color.

Use **Remap Colors** when you want to move a brush into a picture painted with a different paint set. See "Copying from One Picture to Another" above for more information.

The Difference Between Object, Color and Replace

Choose the brush modes, available in the **Modes menu** to change the painting effect of the current brush. It is easiest to grasp the meaning of the first three of those modes in relation to each other.

Object means "the brush as it was when it was selected." **Color** means "make all but the transparent paint the color of the current foreground color." **Replace** means "the brush as it was when it was selected, except make the transparent paint visible."

Switching between modes with the same brush shape often provides a quick route to special graphic effects. You can, for instance, use Object and Color to create a quick drop shadow to give a shape the illusion of depth and substance.

To create a drop shadow for an object you've selected as a brush, choose Color mode, then select a dark color and click down a copy of the shape. Next, choose Object mode and superimpose a copy of the original just a little up and to the left on the dark copy. Presto, an image with a drop shadow, selectable now itself as a brush, of course. Painting with a brush with its own built-in drop shadow is a great way to create text and objects which seem to have depth.

Painting with Smear, Blend, Shade

These three commands, available in the **Modes menu**, permit special painting effects. The color each mode produces depends on the colors the brush passes over as it is used.

Smear does just what its name suggests. It smears the paint around on the screen as if you were smudging it with your finger. **Blend** and **Shade** operate within a range which you establish using the Palette. A brush in either of these modes has no effect on colors not in that range.

To pick the range, click with the **right button** on the **color indicator** (or choose Palette in the Picture menu) to bring up the Palette. Click **SH** to select the Shade/Blend range . Finally, click the color you want at one end of the range; then click the **Range** command; then click the color you want at the other end.

The selected range will extend up and down through the Palette from one color to the other and will be marked by a bracket to the left of the selected colors. The current shade/blend range marker will appear whenever SH is selected in the Palette. Both Blend and Shade work best when their range consists of a set of closely related shades, like the grays in the default palette (the one which appears when you start the program).

A brush in **Shade** mode changes each color it passes over to the next highest color in the paint set if you're painting with the left button and the next lowest color if you're painting with the right button. A brush in **Blend** mode looks at the paint as it passes over it and puts down an average of what it finds. The result is a smoothing of whatever contrasts are there (so long as those contrasts are within the current shade/blend range).

Experiment with brushes of different sizes and shapes to get a feeling for the possible effects. For one look at how the commands work, load the picture named "Patterns" and try shading and blending over the pattern swatches you'll find there. Get out the Palette and click on SH so you can see how the range is set. Notice that brushes in Shade and Blend modes have no effect on paint outside the current SH range.

Animating with Cycle Paint

Cycle in the **Modes** menu and **Cycle** under **Color Control** in the **Picture** menu work together to produce animated effects. Picture parts painted with the Cycle mode seem to move when Cycle is turned on in the Picture menu. (To see an example, load Waterfall and turn cycling on by pressing the TAB key or by choosing Cycle in the Picture menu.)

You can have up to three different Cycle ranges for each picture. To pick these ranges, first click with the **right button** on the **foreground color indicator** (or choose Palette in the Picture menu) to bring up the **Palette**. Then click C1, C2 or C3 to select the range you want to change. The bracket to the left of the colors shows which colors are currently included in the selected range.

Click on a color, then on **RANGE**, and then on another color to establish a range between (and including) those colors. To turn a range off, select it, click on a color, then on RANGE, and then on the same color. To set the cycle speed for the selected range, move the speed control slider right (for faster) or left (slower).

To draw a line which will appear to move, pick any of the three freehand tools; pick a foreground color in one of the cycle ranges; then choose Cycle mode and begin painting. To see the animation happening as you paint, turn on Cycle Colors, then continue painting. (Remember, when you paint with Cycle mode, you must pick a foreground color which belongs to the cycle range currently selected in the Palette.)

3. Drawing/Painting Tools

Magnification and Zooming

Turn on the **Magnify** tool with the left button; then move the selector over the part of the picture you want magnified and press the button again.

When magnify is turned on, clicking on the **Zoom** icon with the left button zooms you closer (into the foreground, as it were) and clicking with the right button zooms out. Magnify will stay on until you click it off.

Use the cursor keys on the keyboard to scroll around in the magnified image. Also, typing **n** while magnification is turned on moves the center of magnification to the current location of the pointer. Pointing anywhere in the image and typing **m** on the keyboard brings up magnification at that point. Typing **m** again turns magnification off.

All tools work in both the magnified window on the right side of the screen and the normal view window on the left. If the picture is "off-center" when you turn magnify off, use the cursor keys to adjust it.

Freehand, Airbrush and Line Tools

Select the line tool you want with the left button. Use the **continuous freehand line** tool to produce an unbroken line. Use the **dotted freehand line** tool to make the space between brush splats depend on the speed you move the mouse.

Use the **airbrush** tool to spray the paint as you go. Select the tool with the right button to change the width of the nozzle. This tool works best with the one-pixel (smallest) brush and the dotted brushes, and is especially effective with Blend and Shade modes.

Select the **straight line** tool; then drag and release to draw a straight line. With the **curve** tool, drag and release to set the two end points for the curve; then move the mouse to establish the curvature and press the button to draw the curve. To stop drawing a curve in the middle of the process, press the **space bar**.

All the line tools use the current brush. If that brush is large, you may find the display disconcertingly jumpy when using those tools. Turning on **Fast Feedback** in the **Prefs** menu causes those tools to draw with the smallest available brush while you hold the button down. Releasing the button redraws the line or shape with the current brush.

Hold down the **Ctrl** key while drawing to cause the straight line and curve tools to leave traces as you draw.

From the keyboard, type **a** for airbrush, **s** for the dotted freehand line and **d** for the smooth one. Type **v** (for "vector") for the straight line tool and **q** for the curve.

Shape Tools

Select the shape tool you want with the left button. Click on the upper left half of the tool's icon to select the hollow version of the shape. Click on the lower right half to select the filled version.

The **rectangle** tool draws out from a corner as you drag; the **circle** and **ellipse** tools draw out from the center. **Polygon** draws a series of connected lines, ending the series when you click on the **starting point** or when you press the **space bar**. Filled Polygon does the same, filling with color when you complete the series.

If you want to quit in the middle of drawing a hollow or filled **polygon**, press the **space bar**. Pressing the space bar after drawing more than one side of a filled polygon completes the polygon and fills it in. Undo had no effect until you finish a filled polygon, then it removes the entire polygon. Undo removes the last line you drew while drawing a hollow polygon.

Hollow shape tools use the current brush. If that brush is large, you may find the display disconcertingly jumpy when using those tools. Turning on **Fast Feedback** in the **Prefs** menu solves the difficulty by causing those tools to draw with the smallest available brush while you hold the button down. Releasing the button redraws the line or shape with the current brush. Turn on **Coords** in that same menu for help with precise positioning.

Holding down the **Ctrl** key while drawing causes the hollow shape tools to leave traces as you draw. Holding down the **Shift** key while drawing with the Rectangle tool produces squares.

Filling Areas with Color

Select the **Fill** tool with the left button. Position the paint bucket with the spilling paint in the area you want to fill and click with the left button to fill with the current foreground color. Clicking with the right button fills with the current background color.

To select Fill from the keyboard, press **f**; then click as you would if you had selected the tool from the Control Panel.

If you have 512K of memory and want to fill an area with a pattern, see "Using a Scratchpad with 512K of Memory," in the Getting Started section.

Using Text and Fonts

Select the **Text** tool with the left button, then click with the left button in the drawing area to position the text insertion box. Typing enters text where the insertion box appears. **Backspace** erases the character to the left of the insertion box. **Return** begins a new line.

You may point to a different location on the screen and click to move the insertion box there. (You cannot set the insertion box to the right of existing text and then backspace over the text. When you move the insertion box to a new location, the program treats text left behind just like any other picture part.)

From the keyboard, type **t** to select the Text tool, and type **Esc** to leave it.

To load fonts from a disk choose **Load Fonts** in the **Fonts** menu. A list of available fonts will appear in the Font menu. (There are 7 fonts, 4 of which come in two sizes, on the program disk. To see what each looks like in comparison to the others, load the picture named "All fonts." Print the picture if you'd like an on-paper reference.)

To enter text in a particular font, choose that font from the Font menu, then choose the text tool. A mark will appear next to the current font in the Fonts menu.

Using Symmetry

Turn on the **Symmetry** tool with the left button. It will stay on until you turn it off by clicking it again. Click with the right button to bring up a window in which you can change the symmetry settings.

The program will accept any whole number up to 40 for **Order** (which determines the number of symmetry points). Use the Backspace or the Del key to erase any number already entered there before entering a new one. You may turn on either **mirror** symmetry (each stroke produces lines in opposite directions around each symmetry point) or **cyclic** symmetry (each stroke produces a line at each symmetry point; all lines go in the same direction).

To change the center around which symmetry operates, choose **Symmetry Center** in the **Picture** menu. Set the crosshairs where you want the center to be and click with the left button. The symmetry center will remain there until you move it, even if you turn the symmetry icon off.

From the keyboard, type / to turn symmetry on and off. All the other tools work while symmetry is on, including Fill.

Using the Grid

Turn on the **Grid** tool with the left button. It will remain on until you click it again to turn it off. When the Grid is on, it affects all the other tools except for the continuous freehand line tool. Use it when precise spacing is important.

When the grid is on, lines drawn with the straight line and curve tools must start and end at grid intersections. And drawing with the dotted freehand and airbrush tools produces paint splats centered around those same intersections. The grid similarly constrains actions with the shape and text tools.

To change the grid spacing, click the grid tool with the right button and move back into the drawing area. When you press the left button, the grid coordinates will appear in the Title strip. Hold the button down and drag to resize the grid to fit your purposes. The numbers will change as you move. Release the button when you have the setting you want.

Experiment with different grid settings to get a feel for what kind of help the grid can provide. The smallest setting you can have in either direction is 1.

Making the Grid Visible

If you'd like to make the grid visible while you work then invisible when you finish, begin by selecting a color in the paint set to use in drawing the grid. Turn on the **grid** tool, select the **straight line** tool and draw in a section of the gridding. Pick up that section as a brush and continue painting until the grid lines are completely painted in.

Paint whatever you want on your "graph paper," then click on the **foreground color indicator** with the **right button** to bring up the **Palette**. In the **Palette**, click on the color you are using for the background in your picture; then click on **Copy**. Finally, click on the color you used to draw the grid. This will copy the background color to the color used to draw the grid, causing the remaining grid lines to disappear into the background.

Painting Patterns with the Grid

The grid is also useful for drawing patterns. To see why, load the picture called "Patterns" and turn the grid on. Select the dotted line freehand tool; then use the brush selection tool to take a brush from one of the patterns on the screen. With the grid still on, paint with the pattern brush. Experiment with different grid settings and notice their effect on the painting action of the pattern brush.

If you have 512K of memory in your computer, you can use the spare screen to fill an area with a pattern. See "Using a Scratchpad with 512K of Memory" in the Getting Started section for more information.

Using the Prefs Menu

Choose **Brush Handle** before using the brush selection tool to switch between holding the brush in the center and holding it by the lower right-hand corner. Choose it again before selecting another brush to turn this feature off.

Choose **Coordinates** to turn on visible coordinate readings on the right side of the title strip. When you move the mouse without pressing a button, the numbers show your position in pixels (the smallest visible dot in the resolution you are using) relative to the top left of the screen. Dragging sets the numbers to 0, 0 at the button press and displays numbers relative to that position until the button is released.

Choose **Fast Feedback** in the **Prefs** menu to cause the line and hollow shape tools to draw with the smallest available brush while you hold the button down. Releasing the button redraws the line or shape with the current brush.

4. Color Control

Changing Colors in the Paint Set

Bring up the **Palette** by clicking with the **right button** on the **foreground color indicator** (or by choosing Color Control and then Palette in the Picture menu). To move the Palette, point at its title bar and move the mouse while pressing the left button. Within the Palette, point at a color you want to change and click with the left button. You may select the color from the drawing area, from the paint set, or from the Palette's color set.

The 3 sliders on the left labeled R, G and B control the amount of red, green and blue in the selected color. The 3 sliders on the right labeled H, S and V control the hue, saturation and value of the color (comparable to the tint, color and contrast controls on a color tv).

Move the sliders either by clicking above or below them, or by dragging them. When you release a slider in a new position, the other sliders will adjust as necessary to reflect the effect of your change. Click UNDO in the Palette to undo changes you've made since selecting the currently selected color. Click CANCEL to put the Palette away, undoing everything done since you got it out. Click OK to say, "Yes, that's what I want."

Think of the colors in the paint set as numbered from 1 in the upper left-hand corner to 32 (in lo-res mode, 512K of memory) in the lower right-hand corner. The program uses colors 1 and 2 to draw the menus, the Control Panel and the Palette itself. The Palette will prevent you from setting these colors so that there is too little contrast between them. Otherwise you might accidentally find a way to make the Palette invisible.

The program uses colors 17 through 20 to draw the pointer and the brush cross hairs. Be careful when using those colors as part of a set of closely related shades. If you reduce the contrast among the colors used to draw the pointer and then place it against a closely related background color, you may find it difficult to see.

To return to the Palette color set available when you start the program, choose **Color Control** and then **Default Palette** in the **Picture** menu.

Changing One Color to Another

To copy a color from one position in the Palette to another, click the color to be copied; then click **COPY**; then click the color to be replaced.

To swap two colors, click the first, then **EX**, then the second. You can also do this directly on the picture in the drawing area—click a color, click **EX**, click the other color, and the two colors will swap with each other.

Automatic Color Creation

Use the **SPREAD** command to generate a smooth set of shades between any two colors in the Palette. First click one of the colors; then click **SPREAD**; then click the other color.

For some practice with color creation, load **StarFlight**, then bring up the Palette. Colors 29, 30 and 31 are the ones used to draw the alien, so keep your eye on him (her, it) as you work. Select color 31 in the Palette and change its Hue. Copy it to color 29; then change either the Saturation or Value of that color. Click **Spread**, click color 31, and presto, an alien of a different color.

Remember as you use **SPREAD** that the program will prevent you from creating colors 1 and 2 with too little contrast between them. And remember that colors 17 through 20 are used to draw the pointer. If you use **SPREAD** to create closely related colors in these positions and then use the pointer over a similarly colored background, you may have trouble seeing it.

You can use the **Undo** command in the Palette (or press **U**) to undo the effects of a **SPREAD** command provided that you use **Undo** before selecting another color or choosing a different command. To return to the Palette color set in effect when you start the program, choose **Default Palette** under **Color Control** in the **Picture** menu.

A. Keyboard Command Summary

If a keystroke equivalent is available for a menu command, it will be listed to the right of the command in the menu.

Note: All keyboard commands work only when the pointer is NOT in the Control Panel or Title Strip.

Special Keys

F10	Turn the Control Panel on/off	Shift	Constrain. Hold down while using the Stretch command in the Brush menu to keep a brush's proportions intact while it is stretched. Hold down while using the rectangle tool to produce a square.
F9	Turn the Title Strip on/off		
F8	Turn the brush crosshairs on/off		
Alt-Open Amiga	Right mouse button	Ctrl	Hold down while using the line or hollow shape tools to leave traces as you draw.
Alt-Closed Amiga	Left mouse button		
Cursor keys	Scroll in magnify. Recenter the picture after magnify.		

Other Keystrokes

[and] Select the next higher/lower color in the paint set as the current foreground color.

-- and = Make the selected pre-built brush larger/smaller.

Control Panel Keystroke Equivalents

s	Left button on dotted freehand drawing tool
d	Left button on continuous draw
D	Left button on continuous draw plus automatic selection of one-pixel brush
v	(For vector) left button on straight line tool
q	Left button on curve tool
f	Left button on fill icon
a	Left button on the airbrush icon
r	Left button on hollow rectangle tool
R	Left button on filled rectangle tool
c	Left button on hollow circle tool
C	Left button on filled circle tool
e	Left button on hollow ellipse tool
E	Left button on filled ellipse tool

b	Left button on brush selection tool
B	Right button on brush selection tool
t	Left button on text icon
g	Left button on grid icon
/	Left button on symmetry icon
m	Left button on magnify
n	Recenter picture
>	Left button on zoom
<	Right button on zoom
u	Undo
K	Clear
,	Left button on foreground color indicator (see page 14)
p	Right button on foreground color indicator (i.e., bring up Palette).

B. Trouble Shooting Guide

1. I'm holding down the button and dragging but no paint is appearing.

First check to make sure you have a brush selected, either one of the pre-built ones, or one you created yourself. And make sure you have a drawing tool selected (freehand, line or shape).

Next, check your brush mode (listed in the title strip). The Smear, Blend or Shade modes don't work unless there's paint already on the screen. And remember, Shade and Blend only affect paint colors within the range set for SH in the Palette.

If you want to paint with the Cycle brush mode, the current foreground color must be one of the colors in the cycle set currently selected in the Palette.

2. Why does the color of the picture change when I use the menus?

The operating system uses colors 1 and 2 to make the menus and colors 31 and 32 to create menu highlights. When you use the menu bar, the program temporarily takes control of those colors to guarantee clear, readable menus and highlights.

3. How can I say "Forget it! Stop!" in the middle of an action?

Press the Space Bar. This stops most actions in progress, returning matters to the way they were before you started the action.

4. I saved a picture but now can't find its name.

Did you save it in a different drawer from the one currently showing in the Load window? To change drawers, click into the drawer name line and erase the existing drawer name, then type the one you want and press Return. To look at the top level of a disk's directory, just erase the current drawer name and press Return.

5. I'm having a hard time seeing the pointer.

Look at the settings you are using for colors 17 through 20 (especially for color 18) in the Palette. These are the colors used to draw the pointer. Adjust them to get what you want.

6. Why don't the keystroke commands work when I try them?

If you're pressing the key indicated in a menu or in Appendix A of this manual and nothing is happening, check the location of your pointer. None of the keystroke commands will work while the pointer is in either the Title Strip or the Control Panel.

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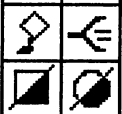
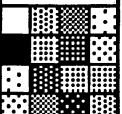
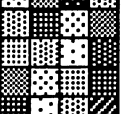
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